

(No Model.)

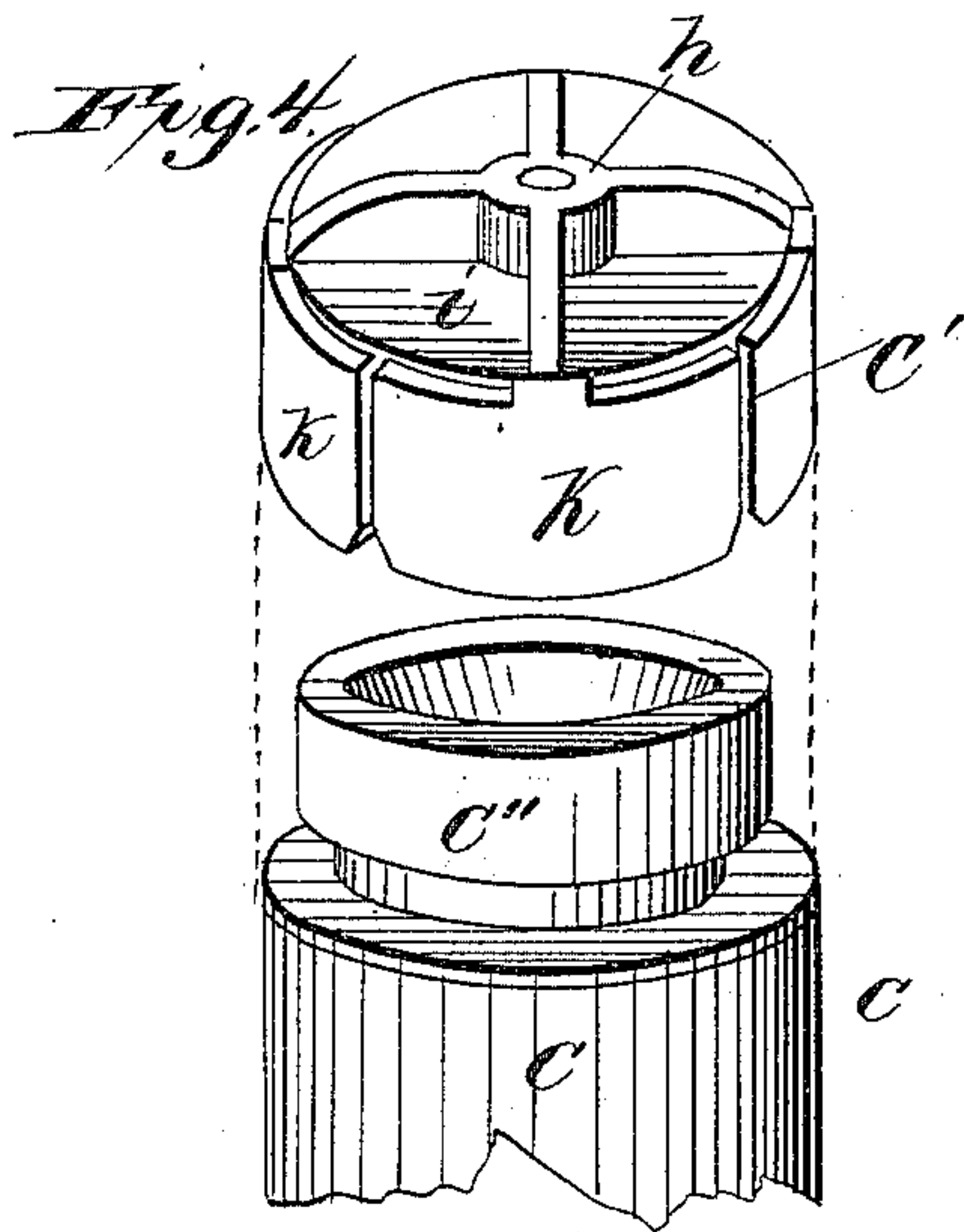
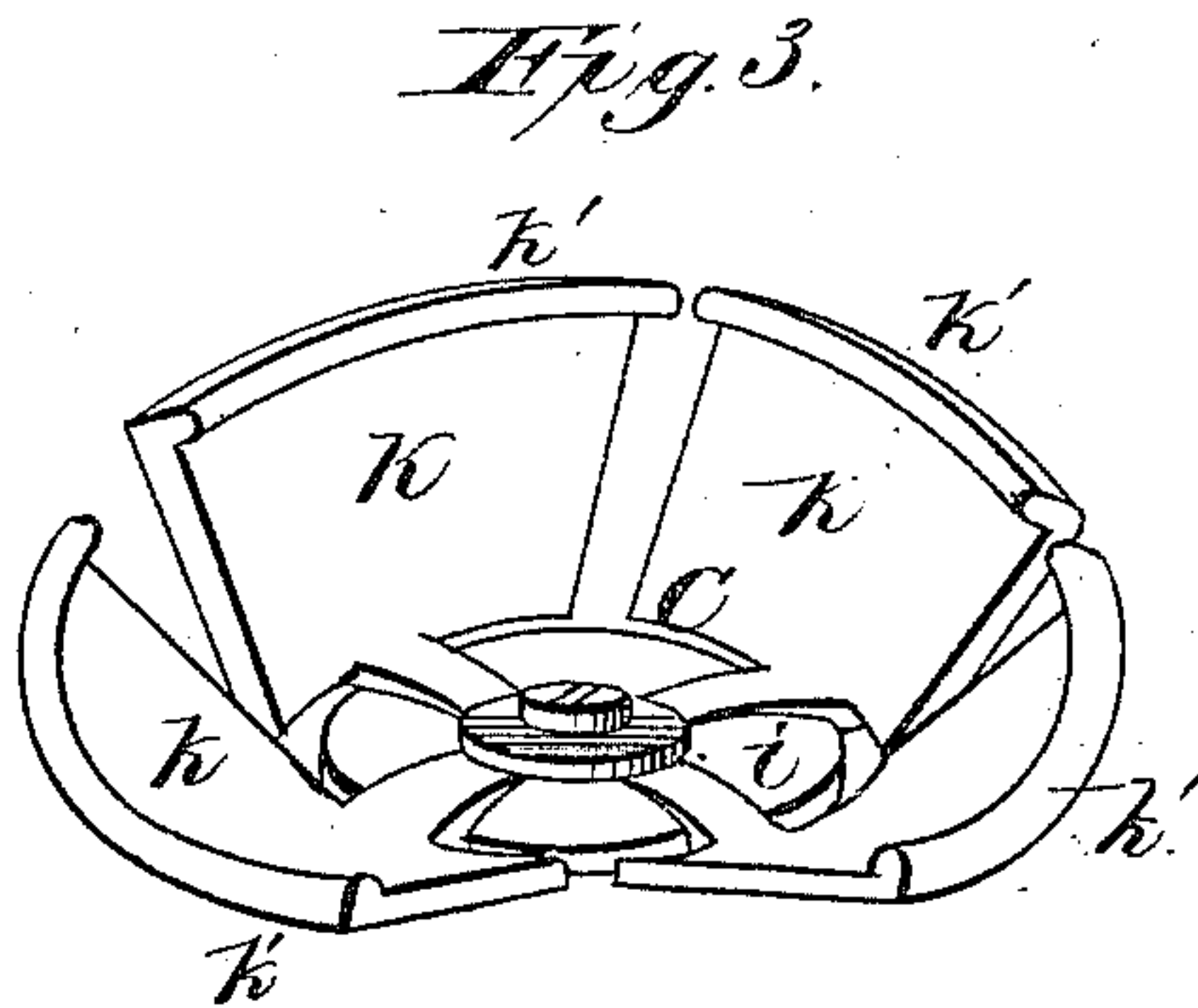
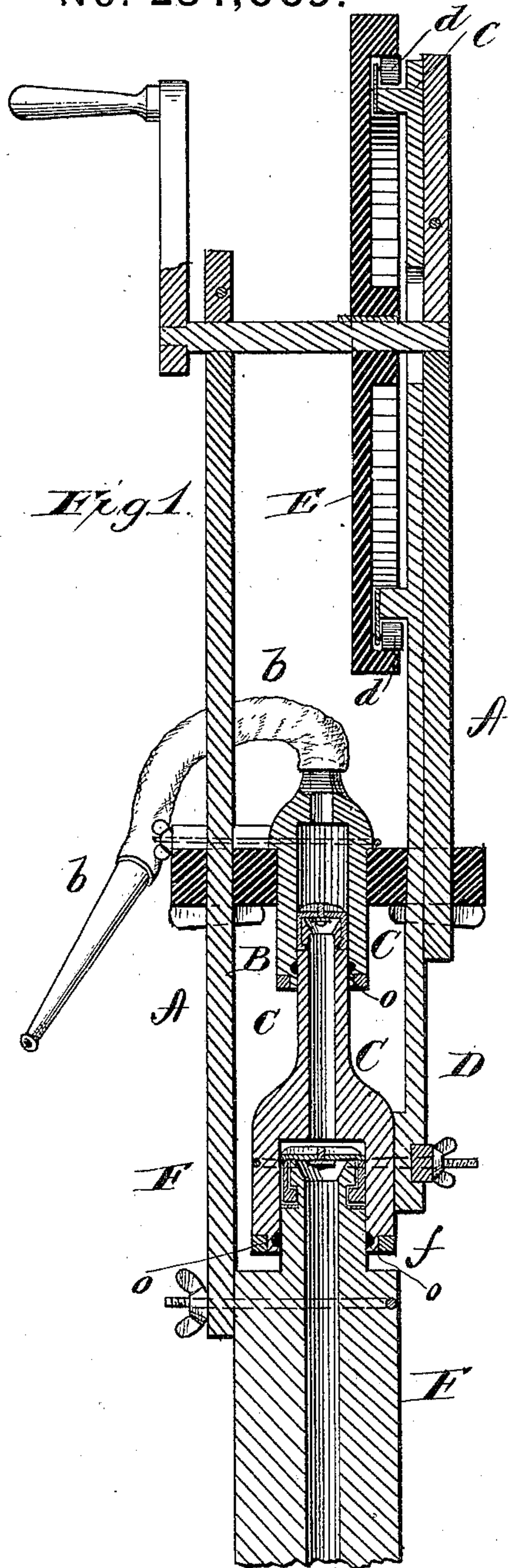
2 Sheets—Sheet 1.

J. E. ROGERS.

Pump.

No. 234,069.

Patented Nov. 2, 1880.



Witnesses.
J. L. Curran.
Robert Lynch.

Inventor.
Joseph E. Rogers.
by L. Deane.
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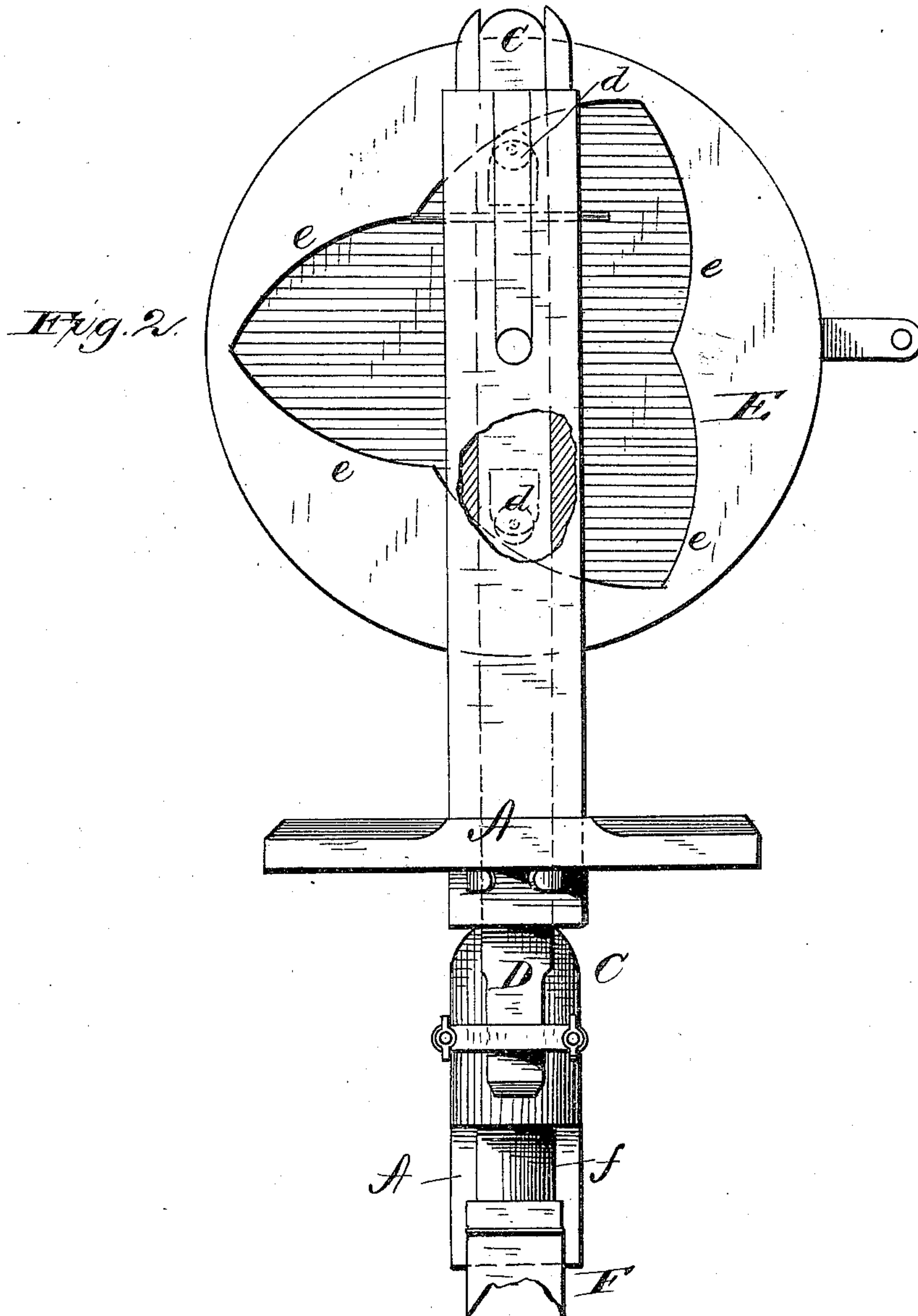
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F. L. Ourand
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UNITED STATES PATENT OFFICE.

JOSEPH E. ROGERS, OF RALSTON, PENNSYLVANIA.

PUMP.

SPECIFICATION forming part of Letters Patent No. 234,069, dated November 2, 1880.

Application filed July 3, 1880. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH E. ROGERS, a citizen of the United States, residing at Ralston, in the county of Lycoming and State of Pennsylvania, have invented certain new and useful Improvements in Pumps; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

Figure 1 is a vertical central section of the entire device. Fig. 2 is a front elevation, showing the cam-wheel, sliding chamber, &c. Fig. 3 is a perspective of the valve inverted. Fig. 4 is a perspective view, showing the piston-head and valve detached.

This invention is an improvement in that class of pumps known as the "compound;" and the novelty consists, more particularly, in the special detail of the structure, and in the combination of the cam driving-wheel with the pump, and in the valves, and, finally, in the general construction and combination of all the parts, all as will now be more fully set out and explained.

In the drawings, A denotes the frame, and B the pump-stock proper, having any usual spout, pipe, and nozzle, stiff or flexible, *b*. Water is brought into this part B by means of sliding chamber C, to which is given a vertical movement by the arm D, so as to fit into the upper and lower parts and on both sides of the cam jointed to it and worked by the wheel E. This is accomplished by means of the wheels or rollers *d*, fixed on projections on the inner face of D, or in any other suitable way, so as to come into proper position to move over the cam outline or track *e* on the inner face of the wheel. This wheel is operated by any suitable power, as by a crank, as now shown, or in any desired way, and thus the sliding arm D will have three or more motions up or down at every turn of the wheel. The construction and arrangement now shown will insure very steady and even movement.

At the upper end the sliding chamber C is contracted into a pipe, *c*, which enters a suit-

able hole in the bottom of B. At the top of *c* is a valve, C'. The construction of this valve will be hereinafter fully explained.

Into the lower end of *c* enters the small pipe or neck *f* from the lower chamber, F. This chamber is fixed to the pump-frame A, or in any convenient way made firm, and is designed to be put into or connect with the water in the well. At its upper end, in the top of neck *f*, is a valve, F'. Its lower end is open.

The valves C' and F' are alike in structure, and are fully shown in Figs. 3 and 4.

To the center of the top of metal frame *h*, and on its under side, is suitably secured the valve-diaphragm *i*, made of leather or any proper material, which has leaves *i'*, movable up or down, as may be, in the frame *h*. To the under side of frame *h* are also secured the arms of the folding ring *k*. This ring is made of leather or any suitable material, and the arms, when in position, form a suitable cap to fit over the top end of neck *c*, each of which is rabbeted, as at *c'*, and at the top reduced in diameter, as at *c''*. The lower ends of these arms are flanged, as at *k*, and these flanges are adapted to close into the rabbet on the upper end of the neck when the valve is placed in position. When thus in place and put into the device for use they will be held securely and firmly in position. These rubber rings will act also as packing or stuffing to the necks *c* and *f*. If desired, the lower ends of B and C may be provided with suitable packing or stuffing boxes *o*.

It is designed that the chamber C shall be considerably larger in its internal capacity than the pump B, as in this way the efficiency of the device is increased.

This device will act as a suction and force pump, and will deliver a continuous stream from its spout or nozzle, and, from the very simplicity of its structure, is strong and not likely to get easily out of order, while its organization is such as to insure the utmost efficiency in its operation.

Having thus described my invention, what I consider new, and desire to secure by Letters Patent, is—

1. In a pump, the combination of a sliding chamber, C, operated by arm D, and having neck *c* and valve C', with the pump-stock B,

into which said valve fits and packs, and fixed chamber F, over the neck *f* and valve F' of which said chamber C fits and is moved, substantially as described.

5 2. In a pump, the cam-wheel E, mounted on frame A, and combined with the sliding arm D, having the upper and lower rollers, *d*, and chambers C and F, and stack B, substantially as described.

10 3. The valve C', consisting of frame *h*, leaves

i, and ring *k*, made in sections, and having flanges *k'*, substantially as and for the purposes set forth.

In testimony whereof I affix my signature in presence of two witnesses.

JOSEPH E. ROGERS.

Witnesses:

CLINTON LLOYD,

JOS. C. ROGERS.